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THE SUPPLY OF FARM LABOR

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Farm labor has presented the problem of a diminishing supply relative to population in this country since the days of original settlement. It is the old familiar problem of the industrial nations of the world. In this country until recent years the problem was almost entirely confined to the quantity of the supply; but, during the last decade or two, the problem has assumed a new phase in which not only the amount of the supply relatively has almost critically declined, but the quality either has absolutely declined or has failed in important degree to keep pace with requirements.

The agricultural population was somewhat less than half the total population in 1880. More precisely of the persons having gainful occupations in that year 44.3 per cent were engaged in agriculture; in 1890, the fraction was 37.7 per cent; and in 1900, 35.7 per cent. Another way of arriving at the fraction of the agricultural population is to compare the farm families with the total. In 1890 the families that cultivated farms as owners, tenants, or laborers were 37.6 per cent of all families and in 1900 the percentage was 35.2. How far the diminishing fraction will decline it is impossible to foresee. France by means of prohibitive protection has somewhat arrested the decline; Germany is attempting to do the same; in the United Kingdom, still open to free trade with the surplus-producing agricultural countries of the world, the decline continues below the nation-sustaining fraction.

In this country we have long had and still have an agricultural surplus of large proportions for foreign consumption, and we can continue to lose agricultural labor relative to urban life and industrial occupations in a much greater degree before we reach a balance between production and national consumption. The Assistant Secretary of Agriculture, Prof. W. M. Hays, estimates that the percentage will decline to about 25 before this balance is reached.

In some prominent articles of agricultural production, exports have been declining for varying lengths of time; in some others the exports either hold their own or continue to increase. In the former category are cheese, fresh pork, bacon, corn, oats, wheat and wheat flour. In none of these cases, however, is the decline due to the unreadiness of agricultural production to maintain the former export unless in the cases of oats, wheat and wheat flour.

On the other hand, the national surplus is well maintained and in many cases increased, with a long list of items. Prominent in this list are cattle, sheep and horses; butter and eggs; both fresh and pickled beef; lard, hams, pickled pork and mutton; lard compounds, oleo oil, animal oils, oleomargarin and tallow; cotton, both cottonseed and flaxseed oil cake and oilcake meal; both cottonseed and linseed oil; fresh and dried apples, prunes and raisins; glucose, barley, malt and hops; rice, rice bran, meal and polish; leaf tobacco, onions and potatoes.

So it appears that notwithstanding conditions in the supply of agricultural labor which are often critical, our national surplus of agricultural production is still well maintained; indeed, there are good reasons for believing that the surplus would increase in many articles if foreign markets would admit them, or if the products of the destructive agriculture of some new countries would not compete, or if facilities for caring for products and transporting them for long distances were available.

In consequence of restrictions in the supply of agricultural labor, inevitable changes in individual farm areas have followed. These have been governed in details by the different agricultural conditions of the various sections of the country, but the general trend has been everywhere the same. From 1880 to 1890 there was a tendency to the relative increase of medium-sized farms, but since 1890 the tendency has been toward the relative increase of farms below some middle acreage as, for instance, to the relative increase of farms under fifty acres in the North Atlantic and North Central divisions; under 100 acres in the South Atlantic, South Central and Western divisions. The movement toward the diminishing area of individual farms is clearly the result of the requirement that the owner or tenant must provide most, if not all, of the labor, in addition to his own, out of his family.

It is noticeable, however, that in a small degree the very large

farms are relatively increasing; there are comparatively few of them, but for economic and perhaps other reasons they are gaining.

The reason why agricultural labor could decline relative to national consumption and still leave the enormous national surplus at least undiminished and often increasing was forcibly expressed in the report of the United States Bureau of Labor concerning hand and machine labor, issued some years ago. The facts established in that report warrant these conclusions:

From 1855 to 1894 the time of human labor required to produce one bushel of corn on an average declined from 4 hours and 34 minutes to 41 minutes. This was because inventors had given to the farmers of 1894 the gang plow, the disc harrow, the corn planter drawn by horses, and the four-section harrow for pulverizing the top soil; because they had given to the farmer the self-binder drawn by horses to cut the stalks and bind them; a machine for removing the husks from the ears and in the same operation for cutting the husks, stalks and blades for feeding, the power being supplied by a steam engine; because they had given to the farmer a marvelous corn-sheller, operated by steam and shelling one bushel of corn per minute instead of the old way of corn-shelling in which the labor of one man was required for 100 minutes to do the same work.

In the matter of wheat production, 1894 being compared with 1830, the required human labor declined from 3 hours and 3 minutes to 10 minutes. The heavy, clumsy plow of 1830 had given way to the disc plow that both plowed and pulverized the soil in the same operation; hand-sowing had been displaced by the mechanical seeder drawn by horses; the cradling and threshing with flails and hand-winnowing had given way to reaping, threshing and sacking with the combined reaper and thresher drawn by horses.

When men mowed the grass with scythes in 1860, spread and turned it over for drying with pitchforks, when they raked it into windrows with a hand-rake, cocked it with a pitchfork, and baled it with a hand press, the labor time required per ton was 35½ hours; but when for this method were substituted a mechanical mower drawn by horses, a hay-tedder, and a hay-rake and hay gatherers and stackers, all drawn by horses, and a press operated by a horse, the labor time was reduced to 11 hours and 34 minutes.

Herein lies the strength of the horse as an economic animal. He has been assailed by the bicycle, the electric street and suburban

car, and by the automobile, but all combined have not prevented horses from increasing in numbers and in value. As a source of farm power and as a substitute for human labor in combination with machines, the horse's economic place on the farm is more strongly established than ever before; but he may have future competitions with gasoline and alcohol.

A short analysis of the agricultural labor of 1900 within the limits presented by the census may be in order. Of the total number of persons engaged in agricultural pursuits for gain, 57.8 per cent were native whites with native parents, 10.6 per cent were native whites with foreign parents, 10.4 per cent were foreign whites, 20.6 per cent were negroes; and 0.6 per cent were Chinese, Japanese and Indians.

In comparison with 1890, the percentage of the total native whites with native parents, who were engaged in agriculture, declined by 3.7; of native whites with foreign parents by 0.7; of foreign whites by 3.3; and of negroes by 5.9. Observe the marked diminishing importance of the negro. From 1890 to 1900 the negroes engaged in agriculture barely increased in number, the gain being less than 200,000 in a total of 2,143,154 of all negroes engaged in agriculture in 1900.

The fraction of the foreign-born of the agricultural population remained steady at about one-eighth to one-tenth from 1880 to 1900. In more recent years the non-agricultural immigration has so diminished the foreign supply to agricultural labor that probably this fraction has diminished since 1900. The principal countries of nativity of the foreign element in our agriculture are Canada, England and Wales, Germany, Ireland, Norway and Sweden, no other country being represented by as much as one per cent of the persons engaged in agriculture. Agriculture in this country is the leading occupation of the males of Norwegian, Danish, Bohemian, Swiss, Swedish, German, Canadian (English), French, English and Scotch parentage. The countries that are now principally contributing immigrants are not supplying much agricultural labor.

Census statistics of female agricultural labor afford no satisfactory conclusions. A general knowledge of farming conditions throughout the country, past and present, is more definite. The out-door work of women on the farms of medium and better sorts has very greatly declined from early days and the decline was more

especially marked after the Civil War. Farmers' wives and daughters no longer milk the cows and work in the field and care for live stock. They do not work in the kitchen garden as much as before, nor assist so much in fruit and berry harvest; they are making less butter, and cheese-making on the farm has become a lost art. They may care for the poultry and the bees, do housework and gather vegetables for the table, and cook and keep the dwelling in order. This is substantially the limit.

The old-time domestic industries are all but forgotten. The women of the farm make no more soap, candles or lye, and so on with a long list of the domestic products of former days; it is rare that one of the younger of the women knows how to knit. Throughout large areas the pride of the housewife in great stores of preserved, dried and pickled fruits, berries and vegetables exists chiefly in history, and dependence is placed mostly upon the local store for the products of the cannery and the evaporator. Perhaps the chief reason for this is the very restricted supply of hired women for domestic labor on the farm. This supply is below the demand and the consequence is that the women of the farmers' families throughout the North must perform most of the household labor that is done.

As far as female labor in the field is concerned, and, indeed, all labor outside the dwelling, except perhaps some labor devoted to poultry, flower beds and vegetable gardens, there is no present problem, nor will there be one in the future. Such labor has ceased and will not be revived and no one desires its revival.

The foregoing statements apply to the whites; of course negro women still do much labor in the cotton field, but this diminishes year by year.

In household matters, on the contrary, the situation is acute. Country girls as well as city girls, no matter how humble their lot in life, regard household labor for hire as unrespectable. Joined with this fact is the other one that the women of the farmer's family are neither able nor willing to repeat the annual labor performance of their grandmothers on the farm. Besides this the farmer's standard of living has risen, certainly for the medium and better sort of farms in the North and West; and, in a perceptible degree, the women of the farmer's family have engaged in social functions which are beginning to be incompatible with the performance of household labor without the aid of a servant. The social ob-

ligations undertaken by them are for the Grange, the women's clubs, the Maccabees, the Women's Christian Temperance Union, the local church, the farmers' clubs, and a list that might be much extended.

Returning now to the labor of men, some comment should be made upon the wages of hired labor. The nominal wages of this labor seem low, although they are now much higher than at any time in the past. The money wages of farm labor in the United States by the month for the year or season without board averaged \$16.42 in 1879; the increase was continuous to \$19.10 in 1893; after which there was a decline to \$17.69 in 1895; after the industrial depression of 1893-96, the rise of farm wages was continuous and reached the rate of \$24.48 in 1906. The selection of years for mention is confined to those for which statistics were obtained by the United States Department of Agriculture.

The money rate of wages of farm labor by the month for the year or season with board averaged \$10.43 in 1879, \$13.29 in 1893, \$12.02 in 1895, after which the increase was continuous to \$17.00 in 1906. The expression of farm wages in money and as a rate is very misleading and is probably one of the most powerful causes of the dissatisfaction of the laborer and of his migration to higher nominal money rates of wages in the town and city. The farm laborer receives some things besides money in return for his labor. More or less in local practice there are wage payments which take the form of bonuses, such as house rent, or the use of a garden plot, or pasturage for a cow, or milk for the daily use of the family, or firewood, or feed for a hog or two, or the use of horse and wagon for family pleasure on certain days. Then there is the low cost of living in the farm laborer's favor as compared with the cost which he would find in the city, which makes his money wages much larger in fact than the rates indicate. This fact, however, has no weight with the farm laborer because it is not perceived by him.

These failures to perceive and understand the full fact with regard to wage earnings tend to deplete the farm of its hired labor. The recent rise in the money rate of wages may perhaps tend to hold wage labor to the farm. Not until the recent prosperous times in agriculture has the farmer been able to pay much higher wages than during the many years of agricultural overproduction and depression preceding 1897 or thereabouts. The farmer is now getting into a financial position where he may be able to hold country

labor from drifting to the city, especially if he expresses the entire wage in terms of money. The rate of increase of money wages on the farm since 1895 has been unprecedented. The increase of wage rates by the month or season without board was 38.4 per cent, with board 41.4 per cent; by the day in harvest without board 46.5 per cent, with board 55.4 per cent; for ordinary labor by the day without board 55.6 per cent, with board 61.3 per cent. During the same time the increase of prices of all commodities as indicated by Bradstreet's prices index numbers was 35.8 per cent, so that the money wages of the farm laborer have increased in purchasing power as well as in number of dollars.

Negro farm labor in the South presents special problems which are fully understood only by southern men. The census of 1890 disclosed the fact that negro labor was leaving the farm and migrating to town and city, to the railroad, to the logging and lumbering camp. The negro is still a necessity to southern agriculture, but he is gradually yielding his place to white labor. One of the old arguments in favor of slavery was that a white man could not work in a field under the southern sun and it is still a common belief in the North that southern farm labor is performed almost exclusively by negroes. This, however, is not the fact. More than half the cotton crop is raised by white labor; in Texas three-fourths or more. In the sugar and rice fields white labor is common and in some places all but exclusive. Negroes are often disposed to migrate in pursuit of chimeras, so that they are easily induced to go to other parts of the country when employment is promised to them, and agents to promote their migration are found where the states have not taxed them out of occupation or made it a criminal offence.

As necessary as the negro is to agriculture in many parts of the South, he is easily displaced wherever he meets fairly good white competition. One reason for this is the fact that the negro is commonly not amenable to the control of his employer. He is not a steady worker and any morning may fail to appear for duty, and this without previous notice and without certainty of his return at any definite time. Ex-Governor Northen of Georgia, characterized the situation some years ago with the following words: "We have not diversified our crops, because the negro has not been willing to diversify. We have not used improved machinery on our farms, thereby economizing expenses, because the negro is not willing to

use such implements. We have not improved our soil, because the negro is not willing to grow crops to be incorporated into the lands, nor leave his cotton seed to be returned to the fields that he has denuded of humus and all possible traces of fertility. Because he is unwilling to handle heavy plows, we have permitted him to scratch the land with his scooter just deep enough to allow all the soil to be washed from the surface, leaving our fields practically barren and wasted. We have not raised stock on the farm because the negro starves the work animals we put into his hands for his personal support. We have accepted his thriftless and destructive methods simply because under our present system we have not been able to help ourselves. If this be true, our present system in this relation is absolutely ruinous and it will not invite the residence of intelligent settlers from the outside."

The farm laborer can still become a farm owner throughout large areas. The old familiar proceeding that resulted in the wonderful production of the northern half of the Mississippi Valley was the beginning as a farm laborer followed by farm purchase under mortgage and eventual ownership free of debt. This process can still be followed in the East, in the South and in the Pacific Northwest, but throughout large portions of the North Central states a man must be "rich" before he can become a farmer.

The movement of farm labor to town and city or to industry and transportation is to be accounted for quite as much by the student of psychology as by the student of economics. To the farm laborer who has been in the city little if any, there is a glamour in city life which has a powerful influence upon his volition. The case is similar to that of the boy who runs away from home to hunt Indians. When this is joined to the greater nominal rate of wages that can be earned in the city, the combination of a little reasoning with a great deal of imagination is sure to rob the farmer of his hired man.

The contrary movement of people from town and city to country and farm began in the fifties of the last century in the establishment of country homes in Berkshire County, Mass., by wealthy men; but, of course, that was not primarily an agricultural movement, although agriculture resulted. Since that beginning the countryward movement of this sort has grown enormously, often reaching out 100 miles or more from a city and in instances much farther. This movement is of such a sort that it adds to the local demand for

farm labor, which may be supplied locally, or if not, by labor brought from other country places or from cities.

The movement from city to farm for the purpose of permanent farm life and labor, either for hire or under ownership, has hardly become general enough in this country to present recognizable proportions. There is a little of this movement here and a little there, but nearly all cases are sporadic. Many colonies have been organized and established during the last century and some of them have been successful in agriculture, but as far as they represent a movement from city to farm, all of them combined have not contributed a perceptible movement. The success of the Salvation Army with several colonies of very poor people taken from cities to establish agricultural communities would seem to indicate that there is room for development along the same line, but this development requires a strong arm of control, the ability to command credit and to advance money to the colonists, it demands constant supervision and control for at least a considerable number of years, and, most important of all in a movement of this sort, it requires the selection of the very best and most industrious, intelligent and promising families. Experience with labor and agricultural colonies in Europe has clearly demonstrated that it is only with picked families, if they are taken from the slums, that economic success can be achieved.

There is one sort of labor that goes from city to farm which has become large enough to be perceptible, and that is seasonal labor for employment, not in general farming operations, but for special purposes. The migration of men from cities to follow the wheat harvest from Oklahoma to North Dakota is the best known feature of this sort of farm labor. It is not so generally known that women and children and some men, too, go from the city to the farm at certain seasons to harvest cucumbers to be sold to the pickle factory, to pick, grade, pack and dry fruits, to harvest hops and berries and dig potatoes, and so on with other crops that need a rush of labor at time of harvest. Some labor of this sort is applied also to the cultivation of crops, as in pulling weeds from beets and onions; but this labor does not seem to be used much for cultivating crops and not at all for planting. The conspicuous feature of the agriculture that utilizes this seasonal labor is that it is intensive. There is high production per acre, so that the wages paid are fully competitive with city rates.

It is one of the strange facts of life that a man born and bred in the city is adaptable to the country with difficulty, if at all, whereas the countryman readily adapts himself to the city and to all sorts of occupations therein. It may seem senseless in social economy that there should be many thousands of idle men in the city and a long "bread line" at a time when farmers are worrying because of a short labor supply, but as a matter of fact the idle workmen if taken to the farm would need constant and close supervision for a long time, and the net result of their labor would not warrant the payment of customary wages, and perhaps not wages above sustenance. As for the bread line, it is safe to say that any farmer would prefer a plague of insects.

Another obstacle to the migration of labor from the city to the farm is the change from noise to quietude. It would seem as though the incessant pounding of violent sound waves upon the nerves creates a craving for their continuance, just as frequent and continued use of morphine creates an irresistible habit. Whether this is to be accepted as a statement of a pathological condition or as only a simile, the fact seems to be that, psychologically and economically, the man born and bred in the city appears to be shut up there like a rat in a trap.

The requirements of the farm in the character of the labor employed are changing radically. The labor to be performed by the owner should be governed by extensive information and considerable scientific knowledge. A successful farmer at the present time may need considerable knowledge of chemistry, of bacteriology, of economic entomology, of the pathology and physiology of plants and animals; of plant and animal breeding, of fungicides and insecticides, of the conservation of soil moisture; of botany, pomology, viticulture, horticulture, and certainly much concerning the practical handling and marketing of his products. The hired laborer does not need to know so much and yet he should be at least moderately intelligent and well informed. The hired man must know that it will not do to strike with his milking stool the cow he is milking, nor to set the dog upon her, and he must habitually enter the poultry house without causing a commotion among the fowls, or else milk and egg production will be diminished. He must have some knowledge of the strength of materials in order that tools and machinery may not be broken. He must be familiar with

the tricks of plowing, and he must understand that he should not let the corn cultivator run deep enough to sever the roots of the corn plants. In a thousand and one particulars, knowledge and intelligence are required in the operations of the most successful farmer.

The foregoing analysis of the situation concerning the supply and character of farm labor indicates what must be done in the future to conserve and increase the supply, if increase is needed. The farmer would not need to get his labor from the cities if he could hold the country population to the soil, and the recognition of the importance of retaining the children on the farm and of keeping country labor from migrating to cities is governing most of the work by nation and states in behalf of agriculture.

The old practice was to trust to the printed page for the instruction of the farmer, but in the course of time it was found that this was poorly productive of results. Then followed the farmers' institute movement, which consisted of lectures, sometimes later with practical demonstrations. In the meantime the United States Department of Agriculture and the experiment stations got into more practical lines of work by means of special advice in special cases, formerly by mail and now also by personal visits; so that it has been discovered that the most successful promotion of agricultural knowledge and practice is caused by practical demonstration under the observation of the farmers to be instructed.

Along with this is the very recent movement to instruct country children in agriculture at the beginning of their school life and to continue this instruction to the high school and the college. In this way the foundation will be laid for successful farming, and such farming implies the retention of children upon the farm.

Still further and to the same end many agencies are at work upon the country people to improve their dwellings, their modes of living, their home life and their social life, which are already beginning to count against the unpleasantness of country life and in favor of making such life attractive. Influences of this sort, joined to the agricultural education of the young and to the practical teaching of the farmer how to do by doing, at a time when farming is prosperous and profitable, may be depended upon to save to our agriculture all the labor it will need for the maintenance of our national self-sufficiency.